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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,138	06/09/2005	Christophe Martinez	007875-0316314	5449

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EXAMINER	
KIANNI, KAVEH C	

ART UNIT	PAPER NUMBER
2883	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/538,138	MARTINEZ, CHRISTOPHE	
	Examiner	Art Unit	
	Kianni C. Kaveh	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) *18-33* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-17* is/are rejected.

7)☒ Claim(s) *12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 June 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Applicant's election with traverse of claims 1-17 in response/amendment submitted is acknowledged. The traversal is on the ground(s) that search and the examination of the entire application can be made without serious burden. This is not found persuasive because The inventions listed as Groups 1, II and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features because the apparatus of Invention I claims 1-17 shown in fig. 1-11 can be made/used with different process as explained in previous office action rather than the process of invention II which is shown in Fig. 12-14 and because each of the above group inventions, as described above, has limitation(s) that is directed toward an invention that would require a different search that that of other group inventions and because each of the above species defining an invention that is distinct that that of the other and requiring a different search. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation 'each corresponding' in 1st line of the claim, in which is ambiguous as what/which? Correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the ***dissipating element*** *must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.*

Allowable Subject Matter

Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 12 is allowable because the prior art of record, taken alone or in combination, fails to disclose or render obvious wherein a sampling element is optically connected to the cladding of the filtering unit in combination with the rest of the limitations of the base claim.

Claim Rejections - 35 USC § 102

> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-14 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Martinez et al. (US 2005/0232538).

The applied reference has a common assignee and one common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this

application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1-14 and 16 Martinez et al. (Martinez) teaches an integrated optical component (see at least figure 3) comprising:

a substrate 18; and a filtering unit arranged in said substrate (see fig. 3 and parag. 0024), said filtering unit comprising:

an optical guide core and an optical cladding independent of the core (shown in at least fig. 3), and at least two elementary zones of interaction arranged in series ($I_{1,2,3..}$),

each of said at least two elementary zones of interaction including a structural parameter that is different from a structural parameter of an adjacent elementary zone of interaction (shown in at least fig. 3),

each of said at least two elementary zones of interaction including an elementary grating configured to couple modes between the guide core and the optical cladding (see 0032);

wherein at least one portion of the optical cladding surrounds a corresponding at least one portion of the optical guide core (shown in at least fig. 3)

and wherein a refractive index of each of said at least one portion of the optical cladding is different from a refractive index of the substrate and lower than a refractive index of the corresponding at least one portion of the optical guide core at least in a part of the optical cladding that surrounds the optical guide core (see at least parag. 0050-0053).

Martinez further teaches wherein each of said at least one portion of the optical cladding has a refractive index higher than that of the substrate; wherein the elementary grating

of one said at least two; wherein elementary zones of interaction is formed in the guide core and/or in the cladding and/or in the substrate (shown in at least fig. 3 and 7 and see relevant parag.); wherein each elementary zone of interaction has is differentiated from another zone of interaction by at least one characteristic selected from a group consisting of a coupling efficiency of the elementary grating corresponding to this zone, a central coupling wavelength of this the elementary grating and/or a coupling phase of the elementary grating shown in at least fig. 3 and 7); wherein in each zone of interaction, the structural parameters parameter are is selected from a group consisting of at least a length L of the elementary grating (shown in at least fig. 3 and 7 and see relevant parag.);

– a period A of the elementary grating,

- a profile of the elementary grating,

- a position of the elementary grating in the zone of interaction,

–an amplitude delta-n of the an effective index modulation induced by the elementary grating,

- a phase of the elementary grating,

–dimensions of the at least one portion of the optical cladding ,

–- the dimensions of the at least one portion of the optical guide core, - the a value of the refractive index of the elementary at least one portion of the optical cladding ,

- the a value of the index of the at least one portion of the optical guide core,

- a position of the at least one portion of the optical cladding in the substrate, and - the a position of the at least one portion of the optical guide core in the cladding (shown in at least fig. 3 and 7 and see relevant parag.); wherein the a grating including

the elementary grating of each zone of interaction has a profile that is constant in period and/or amplitude (shown in at least fig. 3 and 7); herein each of said at least one portion of the optical cladding of a filtering unit has a section in a plane perpendicular to the direction of propagation of a light wave and/or centering with respect to the corresponding at least one portion of the optical guide elementary core of the zone of interaction; different from those of a remaining of said at least one portion claddings of the said filtering unit (shown in at least fig. 3 and 7); wherein each corresponding at least one portion of the optical guide core of a filtering unit has a section in a plane that is perpendicular to the a direction of propagation of a light wave and/or centering with respect to the elementary at least one portion of the optical cladding of the a corresponding zone of interaction; different to those of the other elementary cores of the said unit shown in at least fig. 3 and 7); wherein the a function defined by the elementary gratings of said at least two elementary zones of a the filtering unit comprises phase changes (shown in at least fig. 3 and 7 and see relevant parag.); wherein the phase changes are formed produced between each elementary grating by an offset corresponding to a change in value of the a function phase created by the profile of the elementary grating (shown in at least fig. 3 and 7 and see relevant parag.); a dissipating element configured to dissipate all or part of the cladding modes and arranged between two consecutive elementary claddings or between two consecutive groups of elementary claddings (shown in at least fig. 6 and 7 and see relevant parag.); the dissipating element is created by a reduction in section between two elementary claddings (shown in at least fig. 6 and 7); wherein the dissipating element ' includes an intermediate cladding, positioned between

two elementary claddings, the a section of the intermediate cladding being smaller than at least one of the sections of the two elementary claddings (shown in at least fig. 3 and 7 and see relevant parag.); wherein the dissipating element is created by in a zone of the substrate positioned between two elementary claddings (shown in at least fig. 6 and 7); at least two filtering units wherein a sampling element is optically connected to the cladding of the filtering unit (shown in at least fig. 3 and 7 and see relevant parag.).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1-14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (US 2003/0063629).

Davis et al. (Davis) teaches an integrated optical component (see at least figures 2, 5 and 16) comprising:

a substrate 124; and a filtering unit arranged in said substrate (see 0048), said filtering unit comprising:

an optical guide core and an optical cladding of the core (see fig. 2 and parag. 0048), and at least two elementary zones of interaction arranged in series (see fig. 2),

each of said at least two elementary zones of interaction including a structural parameter that is different from a structural parameter of an adjacent elementary zone of interaction (see at least fig. 2 and 8 and parag. 0034 and 0061),

each of said at least two elementary zones of interaction including an elementary grating configured to couple modes between the guide core and the optical cladding (see 01111, 0094, 0075, 0078 and 0083);

wherein at least one portion of the optical cladding surrounds a corresponding at least one portion of the optical guide core see fig. 5),

and wherein a refractive index of each of said at least one portion of the optical cladding is different from a refractive index of the substrate and lower than a refractive index of the corresponding at least one portion of the optical guide core at least in a part of the optical cladding that surrounds the optical guide core (shown in at least fig. 5, also at least 0023).

However, Davis does not explicitly state that the above cladding is 'independent' of core. It would have been obvious to those of ordinary skill in the art when the invention was made that an optical cladding coupling and/or being coupled of wavelengths

from/to optical core is/known as independent of optical core since such configuration would provide advantageous fiber optic communication system (0026).

Davis further teaches wherein each of said at least one portion of the optical cladding has a refractive index higher than that of the substrate (see at least 0017, 0019 and 0023); wherein the elementary grating of one said at least two; wherein elementary zones of interaction is formed in the guide core and/or in the cladding and/or in the substrate (shown in at least fig. 3, 5 and 15); wherein each elementary zone of interaction has is differentiated from another zone of interaction by at least one characteristic selected from a group consisting of a coupling efficiency of the elementary grating corresponding to this zone, a central coupling wavelength of this the elementary grating and/or a coupling phase of the elementary grating (shown in at least fig. 3, 5 and 15);

wherein in each zone of interaction, the structural parameters parameter are is selected from a group consisting of at least

a length L of the elementary grating,

– a period A of the elementary grating,

- a profile of the elementary grating,

- a position of the elementary grating in the zone of interaction,

–an amplitude delta-n of the an effective index modulation induced by the elementary grating,

- a phase of the elementary grating,

–dimensions of the at least one portion of the optical cladding ,

–- the dimensions of the at least one portion of the optical guide core, - the a value of the refractive index of the elementary at least one portion of the optical cladding ,

- the a value of the index of the at least one portion of the optical guide core, - a position of the at least one portion of the optical cladding in the substrate, and the a position of the at least one portion of the optical guide core in the cladding (shown in at least fig. 3, 5 and 15); wherein the a grating including the elementary grating of each zone of interaction has a profile that is constant in period and/or amplitude (shown in at least fig. 3, 5 and 15); wherein each of said at least one portion of the optical cladding of a filtering unit has a section in a plane perpendicular to the direction of propagation of a light wave and/or centering with respect to the corresponding at least one portion of the optical guide elementary core of the zone of interaction; different from those of a remaining of said at least one portion claddings of the said filtering unit (shown in at least fig. 3, 5 and 15); wherein each corresponding at least one portion of the optical guide core of a filtering unit has a section in a plane that is perpendicular to the a direction of propagation of a light wave and/or centering with respect to the elementary at least one portion of the optical cladding of the a corresponding zone of interaction; different to those of the other elementary cores of the said unit (shown in at least fig. 3, 5 and 15); wherein the a function defined by the elementary gratings of said at least two elementary zones of a the filtering unit comprises phase changes (shown in at least fig. 3, 5 and 15); wherein the phase changes are formed produced between each

elementary grating by an offset corresponding to a change in value of the a function phase created by the profile of the elementary grating (shown in at least fig. 3, 5 and 15); a dissipating element configured to dissipate all or part of the cladding modes and arranged between two consecutive elementary claddings or between two consecutive groups of elementary claddings (shown in at least fig. 3, 5 and 15 and see relevant parag. in which dissipation of modes from cladding to outside rather than to the same core occurs); the dissipating element is created by a reduction in section between two elementary claddings (shown in at least fig. 3, 5 and 15); wherein the dissipating element ' includes an intermediate cladding, positioned between two elementary claddings, the a section of the intermediate cladding being smaller than at least one of the sections of the two elementary claddings (shown in at least fig. 3, 5 and 15); wherein the dissipating element is created by in a zone of the substrate positioned between two elementary claddings (shown in at least fig. 3, 5 and 15); several at least two filtering units (shown in at least fig. 3, 5 and 15); wherein, the filtering unit creates is a gain flattening filter (see at least 0006 and 0063).

Citation of Relevant Prior Art

Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:
(US-20070019910 or US-20060140541 or US-20060119917 or US-20060072875 or US-20050232538 or US-20050207464 or US-20050163425 or US-20050147349 or US-20050099662 or US-20040036955 or US-20030223687 or US-20030206681 or US-20030068129 or US-20030063629 or

US-20020044741 or US-20020015546 or US-20010033400 US-7190859 or US-7190858 or US-7181103 or US-7064889 or US-7003181 or US-6867888 or US-6751241 or US-6731839 or US-6728445 or US-6563984 or US-6282341 or US-5949934)

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kianni C. Kaveh whose telephone number is 571-272-2417. The examiner can normally be reached on 9:30-19:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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